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# THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



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Volume XX

November-December, 1918

Number 6

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## NESTING OF THE ROCKY MOUNTAIN JAY

By W. C. BRADBURY

WITH ELEVEN PHOTOS

MY ACQUAINTANCE with the Rocky Mountain Jay (*Perisoreus canadensis capitalis*) has extended over a period of years, during many hunting, fishing and other trips into its habitat, the mountains of Colorado. The birds were ever most welcome guests and were entertained lavishly or else helped themselves to what they could find. (See figs. 35, 36, and 37.) While seemingly profuse in thanks, and appreciative of hospitality, when it came to reciprocation—well they are “pro-Germans”.

Should I attempt to recite in detail the efforts made, during the past five years, to secure nests, eggs and breeding data, and the failures experienced, your business manager would doubtless charge me double first-class advertising rates for insertion in THE CONDOR, and such insertion would doubtless cost you the loss of many good subscribers. This neither of us can afford. I have talked and corresponded with scores of mine managers, mining engineers, prospectors, guides, trappers and many other winter residents and visitors to the mountains, and have sent special men each season, until this year (1918), only to acquire experience.

Among those interested was Judge S. M. Blair of Breckinridge, an old friend and associate of Edwin Carter, who claimed to have collected for the latter two sets of Rocky Mountain Jay's eggs in 1879. (See Bendire's Life Histories of North American Birds, 1895, page 388.) The judge interested local miners and others, and despite his years, made several personal, though unsuccessful trips on snow shoes to reported nests.

The advice I gave every one that I believed these jays nested in March and April, subjected me to more or less “jollying” from alleged friends; possibly a few excerpts from replies will be permissible.

"Say B—, what kind of a yarn were you handing me when you said March at this altitude? When you recover, try again."

"With ten feet of snow below your skee and as much more in the trees, and the plumb-bob a foot below nothing, why not wait till June? The camp birds are not the nutty ones."

"Where have you been spending your winters since you shifted from sheep and elk to egg shells? Try Florida Everglades. Who's your specialist



Fig. 35. ADULT ROCKY MOUNTAIN JAY AS GUEST OF THE DAUGHTER OF MR. J. D. FIGGINS, DIRECTOR OF THE COLORADO MUSEUM OF NATURAL HISTORY.

and does he hold out much hope to Mrs. B?" Etc.

Still uncertain as to dates, I sent an experienced man to a mining camp above Alma, Colorado. (See figs. 38 and 39.) From there he worked up to an altitude of 11,000 feet (near timber line), seeking especially for these birds, and he was on the job February 14 to 18 inclusive. I quote briefly from his notes and report: "Snow drifts deep. Could get about on snowshoes only. Worked from nine to eleven thousand feet altitude. Saw more or less birds

daily but no evidence of nests or nest building and the birds would lead nowhere. Believing it too early, on February 17 I shot four jays which proved to be two males and two females. Examination showed the organs not developed. Don't think the birds would nest for a month. [These birds were brought to the Museum, where re-examination verified this condition.] Also collected a Clarke Nutcracker near timber line. It showed only slight development. On February 18, blowing a terrific gale and nothing more to learn, prepared to return to Denver." The only other birds reported by him were, "a few Rocky Mountain Creepers seen, also several Mountain Chickadees, which are comparatively common at timber line."

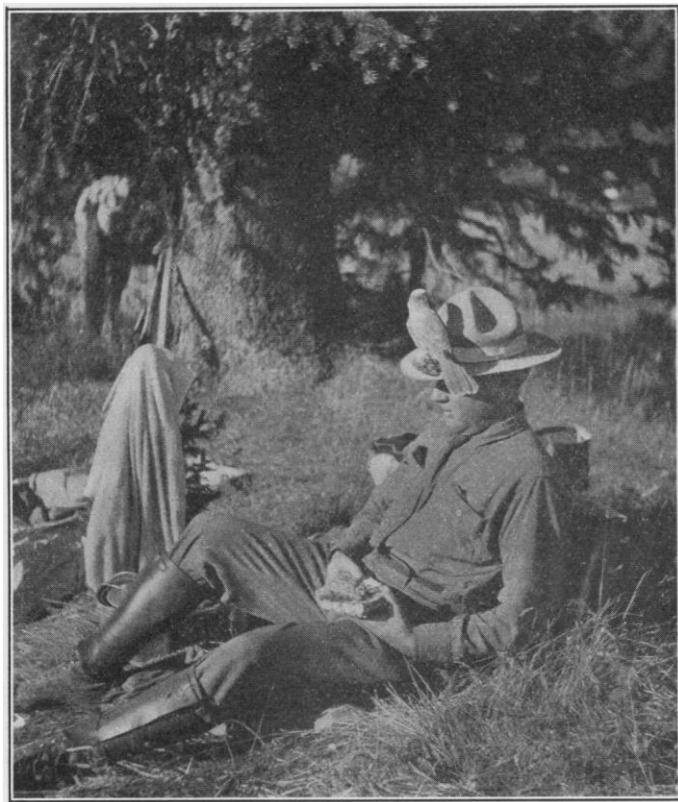


Fig. 36. MR. J. H. HATTON, OF THE FORESTRY SERVICE, ACTING AS HOST TO A ROCKY MOUNTAIN JAY.

In 1916, an artist friend being about to visit his summer residence in the hills for an indulgence in his hobby of painting mountain winter scenes, I arranged with him to help me out. He arrived on April 6, and, starting a fire and some cooking, the smoke and fumes soon brought some jays. These were soon gorging themselves and packing off to hide in neighboring trees what they could not eat. The next day, the 7th, upon their departure, he followed them at a respectful distance as long as the difficult walking would permit, when they were lost to sight and he started to return. Glancing back, he discovered the birds following him, which they continued to do until the cabin was reached, where they again demanded a "hand out", receiving it as though they had

fasted for a week. On April 8 there was a repetition of the experience of the 7th; on the 9th no birds showed up. On April 10, both old birds appeared, accompanied by two young just able to fly, which would indicate the date for fresh eggs to be several weeks earlier. Several other parties have reported being followed back to camp, under similar circumstances.

On April 9, 1916, together with a mining friend and another companion, I started from Granite, Colorado, for the cabin of the former, about six miles distant and ten thousand feet altitude, where he was sure jays were always about. As the snow was reported to be packed and frozen, no snow shoes were taken. Abandoning our conveyance a mile or so from the cabin, we began a steep climb over and around drifts. A thaw had set in, and though the crust would bear our weight at times, we were continually breaking through to the waist or shoulders and frequently deeper. On such occasions it was "some job" getting out, and progress was largely a matter of crawling and climbing out of drifts. Finally arriving at the cabin, we spent an hour or two building

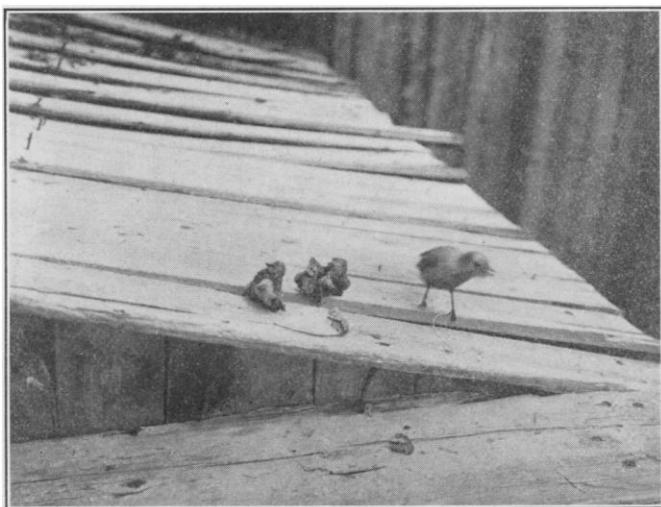


Fig. 37. NAILED IT TO THE ROOF! NOTE THE EXPRESSION OF DISGUST ON THE FACE OF THE FORAGER.

a fire, preparing coffee and lunch, and improvising skees and snow shoes from boards and box material.

During this time, to our surprise, no birds appeared, and we separated and began a systematic search in different directions. I had just descended from the sixth tree I had climbed in fruitless inspection of nests containing nothing more valuable than sundry defunct squirrels, and was sprawled on my coat and broken snow shoes, on the snow, taking stock of my scratches and abrasions, when I noticed a jay not over three or four steps from my feet. It was moving about irregularly, pecking on the snow as a chicken might when feeding on scattered grain, and pretended to be unconscious of my presence. I had no food to offer, nothing but comments, which were liberally tendered. During a period of five or ten minutes the jay continued its erratic movements, moving off twenty or thirty feet and finally taking wing, and I was unable again to locate it.

During these proceedings I endeavored to discover with and without glasses what the jay was picking up, and later made a very careful search but found no trace of insect or other food. Indeed, I don't believe there was any present. My companions had experiences somewhat similar to my own, seeing a few birds, climbing trees, etc., but they secured nothing except an extremely large cock dusky grouse. My mining friend, with a companion, made two subsequent trips of a couple of days each, to this and to another promising location. They found birds, but secured nothing.

In early April, accompanied by assistants, I made another trip of over a hundred and fifty miles, on the reports of a reliable friend that "camp robbers" were apparently nesting. This trip resulted in collecting several sets of the noisy, vociferous Pinyon Jay but nothing I went after. Numerous similar trips in person or by proxy were equally unproductive.

In August, 1917, J. D. Figgins, Director of the Colorado Museum, captured alive four Rocky Mountain Jays near Alma, Colorado, altitude 11,000 feet. On



Fig. 38. AT TIMBERLINE IN THE MOUNTAINS ABOVE ALMA, COLORADO; FEBRUARY, 1917. THE TYPE OF COUNTRY FREQUENTED BY THE ROCKY MOUNTAIN JAY.

arriving in Denver, they were delivered to F. C. Lincoln, curator of birds. For their reception he had provided a commodious wire screen cage, located on an open porch on the shady side of his residence, and there they remained during the winter. Following are extracts from Mr. Lincoln's report upon these birds, made from memory and recently mailed to me from the army camp where he is now located in service.

"The birds, four in number, were received late in August. One died shortly after, from injuries received in transit, leaving but three. One of these had the tip of the right wing broken, necessitating amputation, which readily healed. This bird later proved most tame of the three. The cage was furnished with a large bush, a swinging perch, a box high up in one corner, and, after Christmas, with a small Douglas fir tree. The last mentioned was an immediate success, all the birds thereafter roosting in it. They were all practically fearless from the start, but developed no degree of tameness. They were easily

caught and permitted themselves to be handled at will, but always resented it. The one with the injured wing soon became the tamest, eating readily from my hand.

"The principal food given them was meat, cooked or uncooked, bread, table scraps, apples and bananas. Their appetites were prodigious, and on one occasion the three ate both breasts of a teal duck, a large slice of bread over one-half inch thick, and half of an apple in one day. It was all eaten, for they

soon became weaned of their natural habit of hiding food.

"The most remarkable trait noticed, was their complete avoidance of each other, absolutely no attention being paid by any one to any of the others, not even when I would deliberately feed the choice morsels to one bird. Early this spring I fitted up a thick canopy of yellow pine over the foundation for a nest, hoping the power of suggestion would cause them to mate, but this attempt was a total failure. The birds continued to ignore each other and the only use made of my attempt at a nest was to fill it with bread crusts and other refuse. It is of course possible that all three birds were of the same sex."

I have just today (June 15) learned that since Mr. Lincoln's departure for U. S. service, about a month ago, two of the three birds have died, and the third was turned loose. None was sent to the Museum and their sex is now undeterminable.

In March of this year, I received word that a party in the Cripple Creek

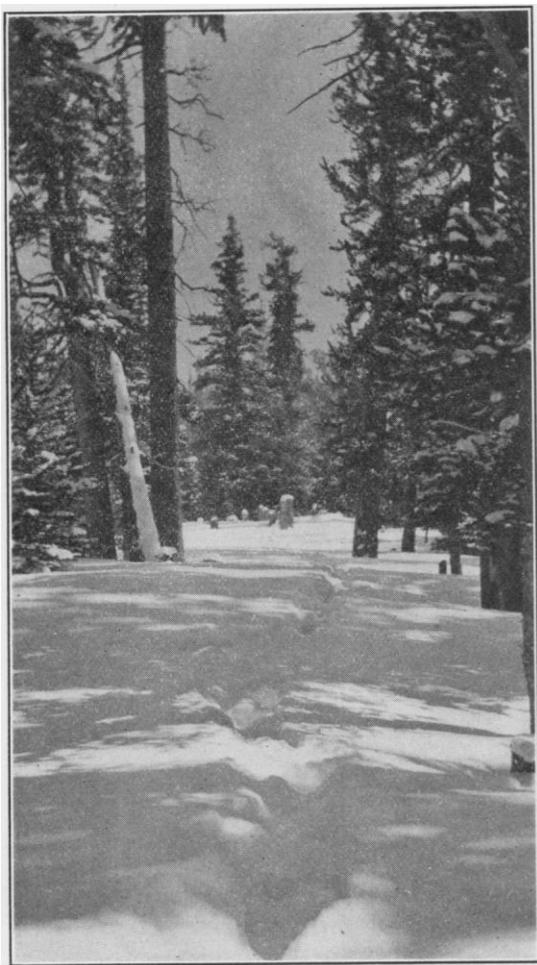


Fig. 39. WOODS NEAR ALMA, COLORADO; FEBRUARY, 1917. THE HOME OF THE ROCKY MOUNTAIN JAY.

district had located a "camp robber's" nest that contained three eggs. The next morning (March 14) going about a hundred miles by train and ten by wagon and afoot, I found my man, who showed me the bird and the "camp robber's" nest and eggs at the altitude of 9,300 feet; but the last mentioned proved to be those of the Clarke Nutcracker—also locally termed "camp robber"—and not the Rocky Mountain Jay, as I had hoped. Very welcome, but

a disappointment just the same, these eggs were so nearly ready to hatch that it was very difficult to save them.

Since the last occurrence I have received three sets of Rocky Mountain Jay's eggs, taken in Colorado, each set accompanied by the nest and parent bird, and with detailed reports by the parties taking them. I will designate these as numbers 1, 2 and 3 in the order received by me, and quote from the reports accompanying them.

Set no. 1. "From Grande County, collected May 2. Altitude 8,600 feet; nest in a lodge-pole pine about thirty feet high and three and one-half inches

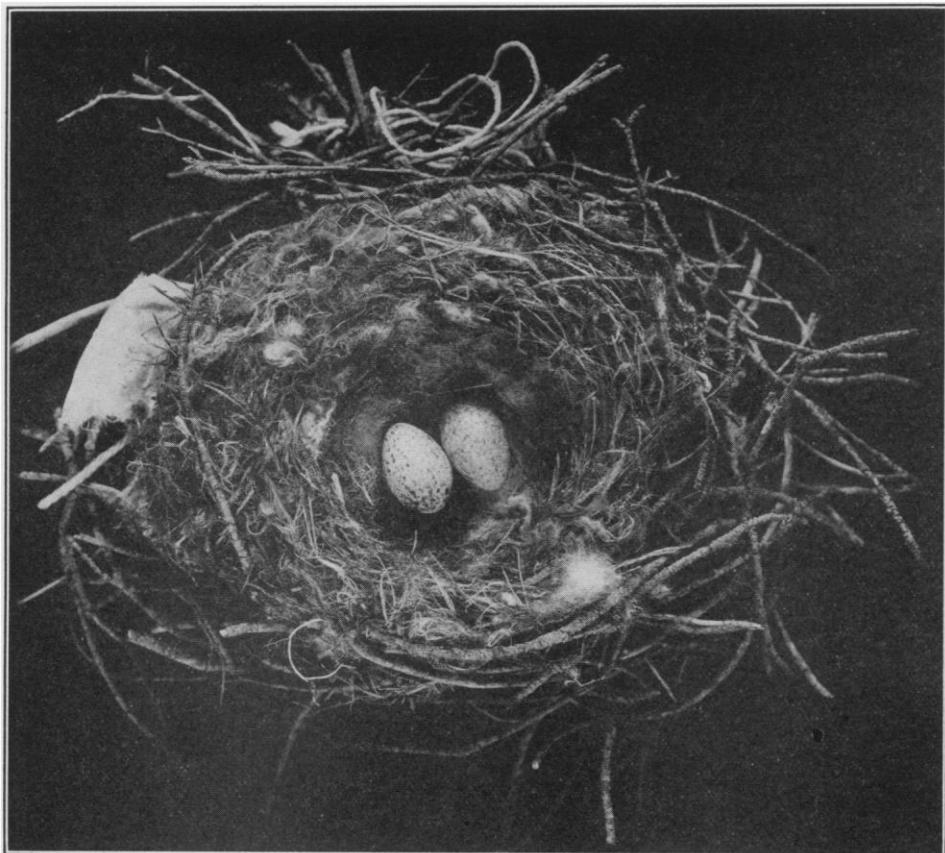


Fig. 40. NEST AND EGGS OF THE ROCKY MOUNTAIN JAY; SET NO. 1.

in diameter at breast height; nest about twenty-five feet from the ground, in a rather bushy top, located close to the trunk on a small limb. Some of the strings used in the nest were neatly bound around the limb upon which it rested.

"The mother bird showed no unusual actions that I could observe, but while the nest was being secured, hovered about the nearby trees, flying back to the nest tree once or twice, and all the while making a terrible fuss."

The two eggs in this nest were more than three-quarters advanced in incubation.

Set no. 2. "Location at about 8,700 feet altitude in Saguache County, Colorado, in open stand of lodge-pole pine. The nest was on the south side of a tree fifteen feet high, located on two limbs two and one-half feet from the trunk and five feet from the ground. The tree was on a steep hillside upon which snow was two feet deep. The nest, so well concealed as to be located with much difficulty, was found through first noticing the bird, on April 3, carrying feathers from the chicken yard. She was not seen upon the nest again until the date upon which it was collected, April 26, at which time she was very tame, and could almost be touched when on the nest."

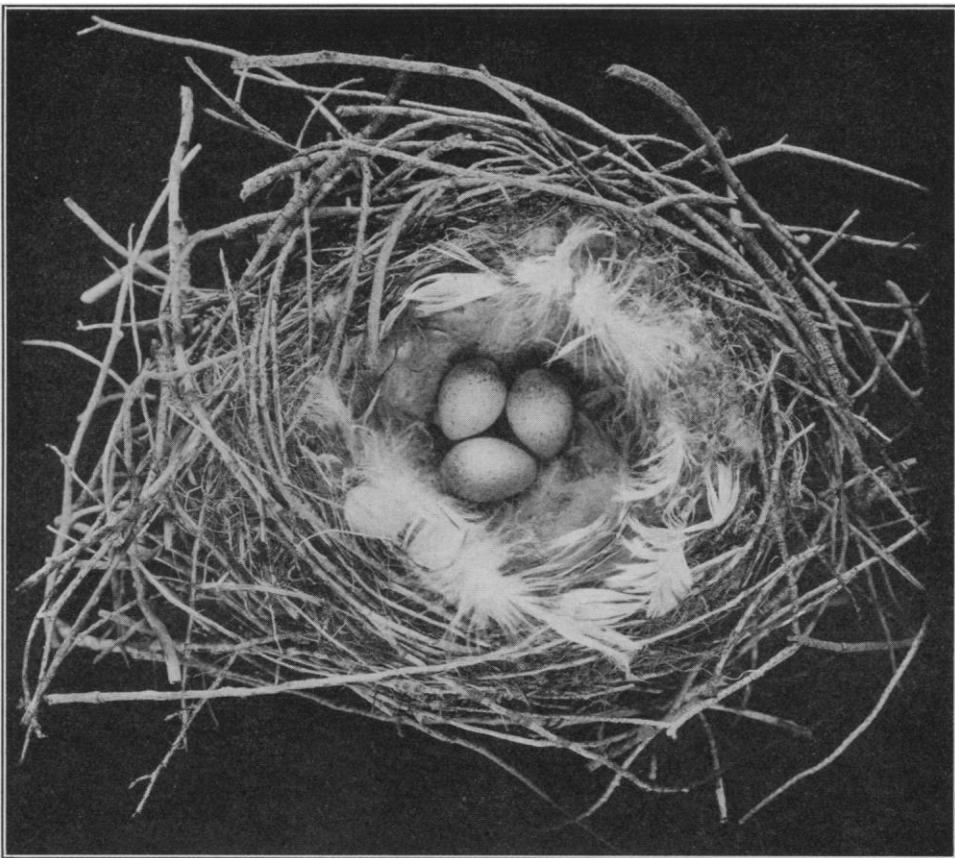


Fig. 41. NEST AND EGGS OF THE ROCKY MOUNTAIN JAY; SET NO. 2.

This nest contained three eggs but slightly incubated.

Set no. 3. "Location, Gunnison County, Colorado, altitude where taken, 10,600 feet. Generally at noon, when the miners came out of the tunnel to eat lunch, there would be five or six birds waiting for the scraps. Early in February they began to disappear, and none was seen about the mine after February 20. By that time there was eight feet of snow on the ground, and from that date on, frequent blizzards of several days duration, such as no man could endure. During the last of February and first half of March, made several trips of a mile or so through the timber, when I saw two pairs of birds only, and

found no indication of a nest. March 21 I saw a pair of birds, one following the other from tree to tree, one of them apparently with something in its mouth, but the hill was so steep I could not follow straight up with skees, and lost them. An hour or so later I discovered them, the lead bird with its mouth full of nesting material, and soon located the nest. It was about four feet from the top of a spruce tree, on the east side of a hill, absolutely concealed in thick foliage. I could detect nothing from any point either with or without my glasses, and as the birds were only building, did not disturb the nest. March 28 I revisited the nest site and saw both birds, but they were shy, and did not approach the nest, though they stayed in the tops of nearby trees.

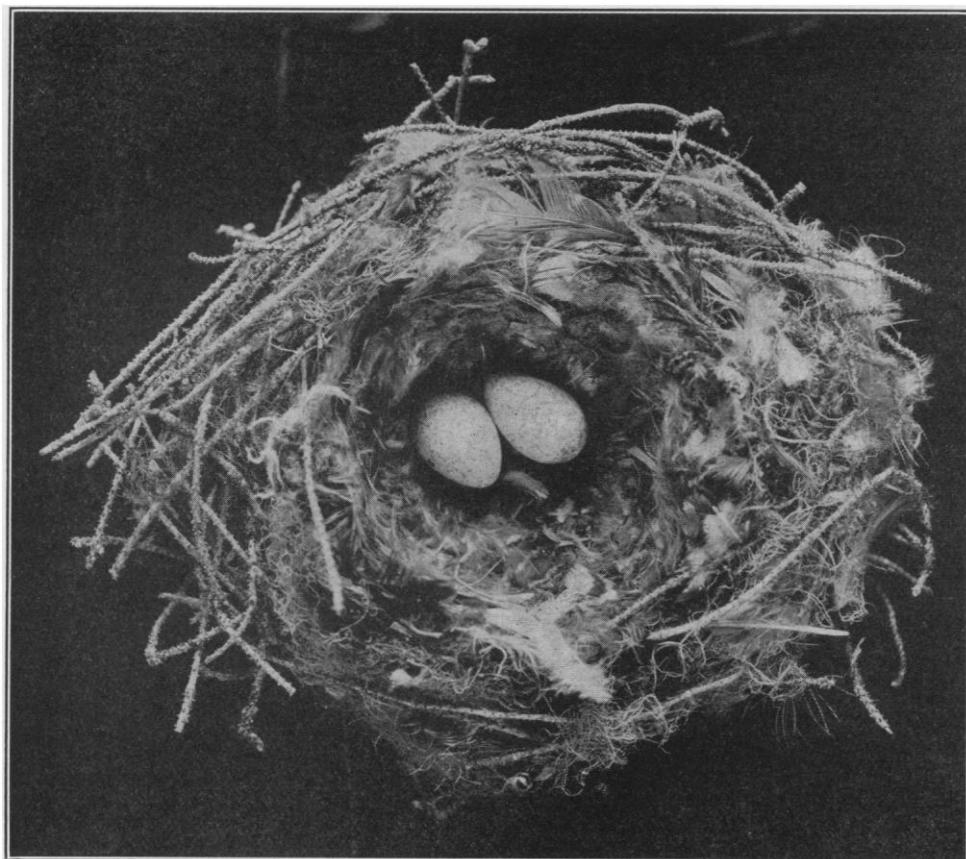


Fig. 42. NEST AND EGGS OF THE ROCKY MOUNTAIN JAY; SET NO. 3.

"April 5 no birds were present, but I investigated the nest, which was apparently completed but empty. I concluded it had been abandoned.

"April 9 could see nothing of the birds, but being now convinced that the nest was abandoned, I did not climb to the nest.

"April 15, seeing nothing of the birds, I decided to collect the nest for examination. To my surprise it contained two eggs, which I deemed an incomplete set, and left it undisturbed.

"April 21 no trace of the birds was to be seen, but when I climbed the

tree I found the female incubating and her mate in the thick foliage but a few inches above the nest. Neither moved until I actually touched the bird on the nest, which still contained but two eggs. The male left and was not again seen, but the female remained close at hand, either in the nest tree or one nearby, while I took the nest and eggs, and then collected her. The nest was in the top of a white spruce, fifty-five feet above the surface of the snow, which was fourteen feet deep on the level. The trunk of the tree was not over three inches in diameter at the nest site. The eggs on blowing proved to contain well developed embryos, probably one-half, and were doubtless partly incubated on April 15. The ovaries of the female were very small. For

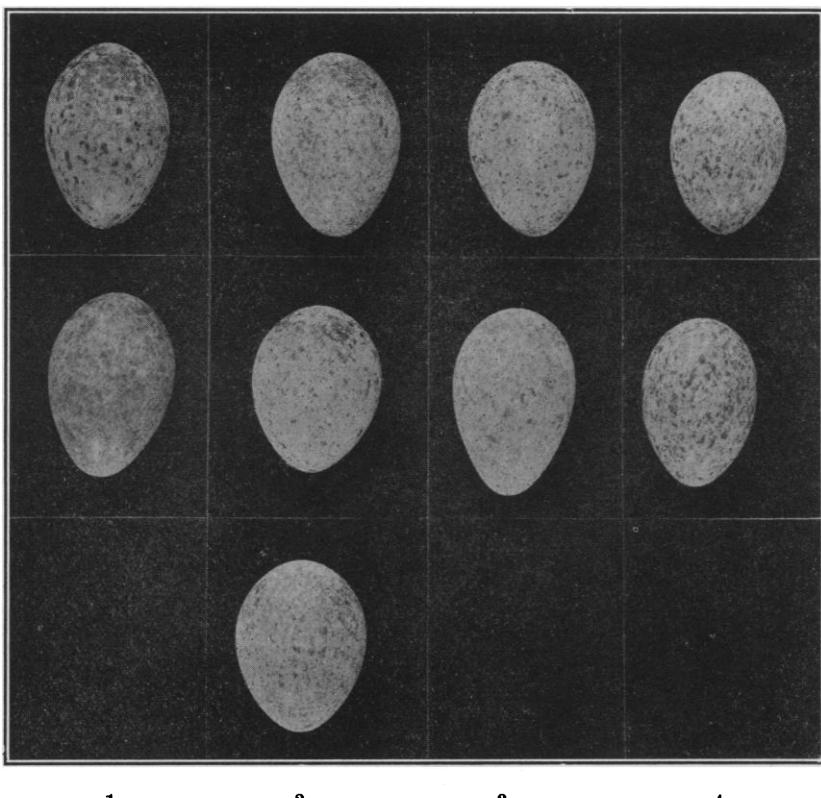


Fig. 43. EGGS OF THE ROCKY MOUNTAIN JAY (SETS NOS. 1, 2 AND 3) AND, FOR COMPARISON, ONE OF THE CANADA JAY (SET NO. 4).

about two weeks prior to collecting this set, it had been storming almost daily."

#### NESTS

No. 1. Outside measurements 7x9 inches, total depth  $3\frac{1}{2}$  inches, base and outside framework to within an inch of top, composed chiefly of pine and other twigs.

Nest proper, outside diameter, 5x $5\frac{1}{2}$  inches, walls about  $1\frac{1}{2}$  inches thick, cup diameter 3 inches, with depth  $1\frac{3}{4}$  inches; composed of fine grasses, cotton strings of several sizes, and large amounts of unravelled rags and white rabbit hairs; lined with same material and feathers. There are several pieces of cot

ton cloth spread between the twig foundation and the nest proper. (See fig. 40.)

No. 2. Base and framework, which extends to top of nest, 7x9 inches; total depth 4 inches; composed of pine and occasional spruce twigs, with some grasses interwoven. There are also visible six large empty cocoons each about three-quarters of an inch long. Cup inside 3x3½ inches in diameter, depth 1¾ inches. Nest proper composed of fine grasses and bark fiber neatly and closely woven together, and warmly lined with chicken and occasional grouse and



Fig. 44. ROCKY MOUNTAIN JAY, IN ESTES PARK, COLORADO. HIS ACTIONS CREATED THE DELUSION THAT HIS NEST WOULD BE EASY TO FIND.

jay feathers. The walls are about one inch thick. (See fig. 41.)

No. 3. Outside measurement, 6½x7 inches in diameter, depth 3 inches. The entire structure is composed of spruce twigs and tree moss, with a small amount of coarse wood fiber and an occasional feather, all very closely and firmly intermixed and woven together. The cup is lined with tree moss, grouse and few other feathers. Inside measurements, 3½ inches diameter, depth 1¾ inches. (See fig. 42.)

(The above would indicate the only material available.)  
EGGS

Color (by F. M. Chapman color chart) : ground light pearl gray, spotted

over entire surface with fine to larger spots of brownish gray, heaviest on larger end. (See fig. 43.)

#### MEASUREMENTS IN INCHES

For comparison only, I include in the photograph (fig. 43) set no. 4, of two Canada Jay eggs taken with one newly hatched chick in South Dakota, altitude 4,400 feet, April 21, 1918.

Set no. 1	Set no. 2	Set no. 3	Set no. 4
1.26x.83	1.15x.85	1.20x.90	1.10x.78
1.26x.85	1.24x.85	1.29x.83	1.15x.77
	1.20x.86		



Fig. 45. NEST OF CANADA JAY, TAKEN NEAR NEMO, SOUTH DAKOTA, APRIL 21, 1918.

The author is greatly indebted to Mr. Smith Riley of Denver, as well as to his field assistants and also to Mr. M. M. Watson, an experienced oologist, for their interest and coöperation in securing eggs, nests, and data on the habits of the Rocky Mountain Jay and takes this opportunity of expressing grateful appreciation of their efforts in behalf of the Colorado Museum of Natural History. Photographs of the nests and eggs are by J. D. Figgins.

Denver, Colorado, July 9, 1918.